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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,479	01/28/2004	Kevin Lee Miller	1875.5610000	9434

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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

GUARINO, RAHEL

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/765,479

Applicant(s)

MILLER ET AL.

Examiner

Rahel Guarino

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. **Claim 7-10 are objected** to because of the following informalities:

It appears that claim 7-10 (apparatus claim) depend on independent method claim 1. Claim 7-10 should be amended to read as depending on apparatus claim 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dierke US, 5,920,833 in view of Fushiki et al. US, 5,200,750 and Hamasaki et al. US, 5,682,162.**

Re claim 1, Dierke discloses a method for (col. 4 line 21-24) muting zero level pulse code modulated (PCM) samples (fig. 2, digital PCM samples, col. 3 line 46-48) received as inputs to a digital to analog converter (DAC) including a PCM input module (12, audio host module; col.3 line 38-40) and a mapping module (14, audio core module; col. 3 line 53-55), the method comprising:

monitoring a level of the PCM samples received as inputs to the PCM input module (control status, col. 3 line 42-45), does not teach sensing consecutive zero level PCM samples.

However, Fushiki teaches sensing consecutive zero level PCM samples from among the monitored input PCM samples (fig.2, col. 4 line 47-51, zero detection circuit detects input data continuously held at zero level).

and Dierke does not teach muting a PCM input to the mapper when a predetermined number of zero level PCM samples have been sensed.

However, Hamasaki teaches muting a PCM input to the mapper when a predetermined number of zero level PCM samples have been sensed (col. 12 line 42-45, "Hamasaki").

Therefore, taking the combined teaching of Dierke and Fushiki as a whole would have been rendered obvious to one skilled in the art to modify Dierke to utilize sensing consecutive zero level PCM samples for the benefit of avoiding degradation of S/N ratio (col. 3 line 66-68, "Fushiki").

Therefore, taking the combined teaching of Dierke and Hamasaki as a whole would have been rendered obvious to one skilled in the art to modify Dierke and Fushiki for muting a PCM input to the mapper for the benefit of reducing the amplitude noise (col. 12 line 45-48, "Hamasaki").

Re claim 2, the modified invention as claimed in claim 1, further comprising un-muting the PCM input to the mapper when a first non-zero level PCM sample is been sensed. (col. 12 line 42-45, "Hamasaki").

Re claim 3, the modified invention as claimed in claim 2, wherein the muting and un-muting is configured for autonomous activation (col. 1 line 65-37, "Hamasaki").

Re claim 4, the modified invention as claimed in claim 1, wherein the predetermined number is programmable (col. 7 line 63 to col. 8 line 5, "Fusiki").

Re claim 5, the modified invention as claimed in claim 4, wherein the non-zero level PCM sample immediate follows the consecutive zero level PCM samples (col. 4 line 47-51 "Dierke").

Re claim 6, Dierke discloses an apparatus (fig. 3 part of figure 2) for muting zero (col. 4 line 21-24) level pulse code modulated (PCM) samples (fig. 2, digital PCM samples, col. 3 line 46-48) received as inputs to a digital to analog converter (DAC) including a PCM input module (12, audio host module; col. 3 line 38-40) and a mapping module (14, audio core module; col. 3 line 53-55), the apparatus comprising:

means for monitoring a level of the PCM samples received as inputs to the PCM input module (control status, col. 3 line 42-45), does not teach sensing consecutive zero level PCM samples.

However, Fushiki teaches sensing consecutive zero level PCM samples from among the monitored input PCM samples (fig. 2, col. 4 line 47-51, zero detection circuit detects input data continuously held at zero level).

And Dierke does not teach muting a PCM input to the mapper when a predetermined number of zero level PCM samples have been sensed.

However, Hamasaki teaches muting a PCM input to the mapper when a predetermined number of zero level PCM samples have been sensed (col. 12

line 42-45,"Hamasaki").

Therefore, taking the combined teaching of Dierke and Fushiki as a whole would have been rendered obvious to one skilled in the art to modify Dierke to utilize sensing consecutive zero level PCM samples for the benefit of avoiding degradation of S/N ratio (col. 3 line 66-68,"Fushiki").

Therefore, taking the combined teaching of Dierke and Hamasaki as a whole would have been rendered obvious to one skilled in the art to modify Dierke and Fushiki for muting a PCM input to the mapper for the benefit of reducing the amplitude noise (col. 12 line 45-48,"Hamasaki")

Re claim 7, the modified invention as claimed in claim 1, further comprising un-muting the PCM input to the mapper when a first non-zero level PCM sample is been sensed. (col. 12 line 42-45,"Hamasaki").

Re claim 8, the modified invention as claimed in claim 2, wherein the muting and un-muting is automatic (col. 1 line 65-37, "Hamasaki").

Re claim 9, the modified invention as claimed in claim 1, wherein the predetermined number is programmable (col. 7 line 63 to col.8 line 5, "Fushiki").

Re claim 10, the modified invention as claimed in claim 9, wherein the non-zero level PCM sample immediate follows the consecutive zero level PCM samples (col. 4 line 47-51,"Dierke").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rahel Guarino whose telephone number is 571-270-1198. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Payne David can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RG


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SUPERVISORY PATENT EXAMINER